

REMARKS/ARGUMENTS

Claims 17-27, 30, 31, and 37 are pending in this application. By this Amendment, Applicant AMENDS claim 17; CANCELS claims 28, 29, and 32-36; and ADDS new claim 37.

Support for new claim 37 can be found, for example, in paragraphs [0013] and [0016] of Applicant's substitute specification and Figs. 1, 7, 11, 12, and 17 of Applicant's originally filed drawings.

Applicant appreciates the Examiner extending the courtesy of the telephone interview on December 16, 2008. During the telephone interview, Applicant pointed out that Ashihara (JP 06-153902) (Applicant notes that the Examiner referred to Ashihara by the inventor's first name, Yoshishige) teaches a flexible container 10 attached to a support 11, 13 via a detachable band 12. Because the detachable band 12 of Ashihara may connect the flexible container 10 to the support 11, 13 at various locations along the outer surface of the flexible container 10, the culturing space (i.e., volume) within the flexible container 10 may vary from one cycle to another. Although the Examiner referred to the support of Otsuki et al. (JP 2000-139444) (Applicant notes that the Examiner referred to Otsuki by the inventor's first name, Toshi) for the alleged teaching of a predetermined culture space, Applicant respectfully submits that one of ordinary skill in the art would not have combined Ashihara and Otsuki et al. as set forth by the Examiner for the reasons discussed below.

Applicant affirms election of Group I, including claims 17-27, 30, and 31. Claims 28, 29, and 32-36 have been canceled since these claims are directed to non-elected inventions. Applicant reserves the right to file Divisional Applications to pursue Groups II and III, including claims 28, 29, and 32-36.

Claims 17, 23, 30, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ashihara. Claims 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ashihara in view of Otsuki et al. Claims 21 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ashihara in view of Otsuki et al., and further in view of Fox (U.S. 6,942,775). Claims 24-27 were rejected under 35

U.S.C. § 103(a) as being unpatentable over Ashihara in view of Otsuki et al., and further in view of Waterhouse et al. (U.S. 6,005,663).

Applicant respectfully traverses the rejections of claims 17-27, 30, and 31.

Claim 17 has been amended to recite:

A microorganism culturing apparatus comprising:
a microorganism;
a culturing solution for culturing the microorganism;
a container arranged to hold the culturing solution; and
a support arranged to support and hold the container; wherein
the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support. (emphasis added)

With the unique combination and arrangement of features recited in Applicant's claim 17, including the feature of "the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support," Applicant has been able to provide a culturing apparatus that is capable of restricting growth of miscellaneous microbes in the culturing solution and that is also capable of repeatedly forming the same culture space (see, for example, paragraph [0009] of Applicant's substitute specification).

The Examiner alleged that Ashihara teaches all of the features recited in claim 17 including a flexible culture bag such that the "usable cultivation tank shape of the bag is due to being supported by the supporter material."

Applicant has amended claim 17 to recite the feature of "the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support." Support for this feature is found, for example, in paragraphs [0009], [0011], and [0096] of Applicant's substitute specification and Fig. 9 of Applicant's originally filed drawings.

As indicated above, Ashihara teaches a support 11, 13 arranged to hold a flexible container 10, wherein the shape of the container 10 is defined by how the container is supported by the support, as shown in Fig. 1 of Ashihara. However, the container of Ashihara has the same problems as the container of Arad et al. (JP 06-

209757) discussed in paragraphs [0006] and [0008] of Applicant's substitute specification. Specifically, the container 10 of Ashihara may be fastened to the lid 11 at different positions due to the imprecise connection between the lid 11 and detachable band 12 of Ashihara. Accordingly, due to this lack of precision, the shape and space (i.e., volume) of the flexible container 10 of Ashihara will not always be the same each time it is installed in the support 11, 13.

Thus, Ashihara clearly fails to teach or suggest the feature of "the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support," as recited in Applicant's claim 17.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 17 under 35 U.S.C. § 102(b) as being anticipated by Ashihara.

As also indicated above, the Examiner alleged during the telephone interview on December 16, 2008 that Otsuki et al. teaches a fixed shape support having a constant volume that would always hold the same amount of culturing solution. The Examiner further alleged that it would have been obvious to one of ordinary skill in the art to provide the support of Otsuki et al. with a disposable container as taught by Ashihara to eliminate the need to carefully clean the support of Otsuki et al. Applicant respectfully disagrees for the following reason.

Otsuki et al. teaches a culturing apparatus including a plurality of reactor modules 6 arranged on supports 9 in a two-dimensional array within frame 7, as can be seen in Fig. 4 of Otsuki et al. In this type of culturing apparatus, the amount of light transmitted to the inner reactor modules 6 in the frame 7 of Otsuki et al. is greatly reduced by interference from the outer reactor modules 6 arranged at the ends of the frame 7. Additionally, the inner reactor modules 6 receive more light at the outer edges along the frame 7 than the inner edges in the middle of the frame 7, leading to inconsistent photosynthesis in the culturing solution. Accordingly, Applicant respectfully submits that one of ordinary skill in the art would not have combined Ashihara with Otsuki et al. because such a combination would not provide a uniform level of

photosynthesis in the culturing solution and would therefore be detrimental in achieving the results expected from the culturing apparatus of Ashihara.

Thus, the combination of Ashihara and Otsuki et al. fails to teach or suggest the feature of "the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support," as recited in Applicant's claim 17.

The Examiner relied upon Fox and Waterhouse et al. to allegedly cure the deficiencies of Ashihara and Otsuki et al. However, Fox and Waterhouse et al. also fail to teach or suggest the feature of "the container takes on and maintains a predetermined shape defined by the support such that the container repeatedly occupies an identical space within the support," as recited in Applicant's claim 17. Thus, Applicant respectfully submits that Fox and Waterhouse et al. fail to cure the deficiencies of Ashihara and Otsuki et al. described above.

Accordingly, Applicant respectfully submits that Ashihara, Otsuki et al., Fox, and Waterhouse et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicant's claim 17.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 17 is allowable. Claims 18-27, 30, 31, and 37 depend upon claim 17, and are therefore allowable for at least the reasons that claim 17 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a ONE-month extension of time, extending to February 6, 2009, the period for response to the Office Action dated October 6, 2008.

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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